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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,114	10/29/2003	Robert Sala	03-650	7266

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NEW HAVEN, CT 06510

EXAMINER

HUSON, MONICA ANNE

ART UNIT PAPER NUMBER

1732

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/696,114

Applicant(s)

SALA ET AL.

Examiner

Monica A. Huson

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This office action is in response to the Amendment filed 15 June 2006.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 8, 9, 11, 12, and 14 are rejected under 35 USC 103(a) as being unpatentable over Macdonald (U.S. Patent 4,938,825), in view of Ibar (U.S. Patent 5,543,092). Regarding Claim 1, Macdonald shows that it is known to carry out a method for manufacturing a fiber-reinforced plastic component (Abstract) comprising providing a starting material (Column 4, lines 25-30); preparing a starting mixture from the starting material, wherein the starting material is processed in a plasticizing unit to yield a low viscosity, homogenized, reactive starting material (Column 4, lines 40-66); and injecting the reactive starting mixture into a cavity of a mold containing a fiber mass, wherein the reactive starting mixture along with the fiber mass is transformed by means of a polymeric reaction into the fiber reinforced plastic component (Column 5, lines 42-48; Column 6, lines 50-68). Macdonald does not specifically show using a screw feed system using the application of heat during his plasticization process. Ibar shows that it is known to carry out a method of making a plastic article wherein plasticizing takes place using a screw feed system under the application of heat (Column 9, lines 54-58) and including controlling rheological properties (i.e. properties including viscosity) inside the accumulator (i.e. Applicant's transfer unit) (Column 6, lines 5-34; Column 9, lines 65-67; Column 10, lines 1-24; Column 12, lines 14-25). Ibar

and Macdonald are combinable because they are concerned with a similar technical field, namely, methods of molding thermoplastic articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Ibar's screw mechanism during Macdonald's plasticization process in order to most efficiently carry out plasticization.

Regarding Claim 8, Macdonald shows the process as claimed as discussed in the rejection of Claim 1, including a method wherein the step in which the starting mixture is injected into the mold is regulated electronically by means of valves (Column 6, lines 25-27; It is interpreted that the pumps will comprise valves.), meeting applicant's claim.

Regarding Claim 9, Macdonald shows the process as claimed as discussed in the rejection of Claim 8 above, but he does not show thermally decoupling the mold from the previous process machinery. Ibar shows that it is known to carry out a method wherein an injection feed pipe proximate to the related valves comprises means to decouple the mold thermally from a transfer unit and from a plasticizing unit (Column 9, lines 37-41; Column 10, lines 16-20; Column 19, lines 46-52; Column 22, lines 53-63). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Ibar's temperature control theory during Macdonald's molding process in order to most accurately control the thermal environment of the molding system.

Regarding Claim 11, Macdonald shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the starting material comprises prepolymers mixed with an activator which accelerates the polymeric reaction (Column 6, lines 13-56; It is being interpreted that the polymer before the mixing (i.e. reaction) can be termed a prepolymer.), meeting applicant's claim.

Regarding Claim 12, Macdonald shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the

plastic matrix produced from the reactive starting material is thermoplastic (Column 2, lines 52-55), meeting applicant's claim.

Regarding Claim 14, Macdonald shows the process as claimed as discussed in the rejection of Claim 1 above, including showing a starting mixture containing prepolymers mixed with an activator for polymeric reaction with the prepolymer (Column 4, lines 25-43), but he does not show specific thermal characteristics of his starting mixture. Ibar discloses that the temperatures characteristics of his starting mixture will vary depending upon the desired end results (Column 19, lines 46-67; Column 20, lines 1-6). It is being interpreted that this disclosure suggests the claimed limitations wherein the melting temperature of the starting mixture is lower than the melting point of the plastic component produced from the starting mixture and the ideal reaction temperature for the starting mixture is higher than the melting temperature of the starting mixture and lower than the melting temperature of the plastic matrix. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Ibar's relative temperature theory during Macdonald's molding process in order to obtain a molded article without overprocessing or underprocessing the molding material.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Macdonald and Ibar, further in view of Eckardt et al. (U.S. Patent 6,468,464). Macdonald shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show using dry solid material for the starting material. Eckardt et al., hereafter "Eckardt," show that it is known to carry out a method of manufacturing a fiber reinforced plastic object wherein the starting material is in the form of a dry solid material such as powder or granulate (Column 4, lines 55-57). Eckardt and Macdonald are combinable because they are concerned with a similar technical field, namely, methods of injection

molding plastic. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Eckardt's dry solid filler in Macdonald's process in order to avoid the complications that arise with liquid ingredients (e.g. difficulties in storing and handling).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Macdonald and Ibar, further in view of Pearce et al. (U.S. Patent 5,348,985). Macdonald shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show a specific plastic matrix. Pearce et al., hereafter "Pearce," shows that it is known to carry out a method wherein the plastic matrix produced from the reactive starting mixture is a polybutylene terephthalate (PBT) and contains cyclic oligomers of the PBT (cPBT) mixed with a zinc catalyst (3, lines 7-10, 64-68). Pearce and Macdonald are combinable because they are concerned with a similar technical field, namely, methods of molding thermoplastic articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Pearce's specific composition as that in Macdonald's molding process in order to obtain an article with desired characteristics of the specific composition.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply

is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 6:45am-3:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Monica A Huson

September 5, 2006

  
CHRISTINA JOHNSON  
PRIMARY EXAMINER  
9/5/06